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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,618	02/11/2005	Egidio Berwanger	04306/0202213-US0	9426

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EXAMINER	
WEINSTEIN, LEONARD J	
ART UNIT	PAPER NUMBER
3746	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,618	BERWANGER ET AL.	
	Examiner	Art Unit	
	Leonard J. Weinstein	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 December 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/23/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: line 11 of page 8 makes reference to figure 4 when elements of figure 3 are recited in the description that follows. Appropriate correction is required.

Drawings

2. The drawings are objected to for the following:

a. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures.

b. The drawings are objected to under 37 CFR 1.83(a) because they fail to show 51, 52, 53, and 54 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures.

c. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "10" and "20" have both been used to designate springs.

d. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "non-hollow lateral surface 54," "flat springs 10," "helical springs 20," "valve plate 30," and "suction valve 31." Further no "chamber 9" is shown in figures 4 and 5.

e. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "non-hollow lateral surface" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

f. The drawings are objected to for using the same reference characters 1-10 for analogous components between the present invention and the prior art as described in the disclosure which are materially different types of linear compressors.

g. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both "flat springs" and "shell."

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 6 is objected to because of the recitation of a "non-hollow lateral surface" fails to provide a clear limitation ascertainable by one of ordinary skill in art when considering the invention as claimed. Further the specification as discussed does not provide a standard for ascertaining the scope of this limitation. As best understood by the examiner the recitation of a "non-hollow lateral surface" will be considered ---a tubular body forming a chamber wherein a portion of a piston is disposed within and comprising a resonant structure--- for the purpose of the office action on the merits that follows. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1-7 and 11-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Thomin et al. 6,345,963. Thomin teaches all the limitations as substantially claimed for linear compressor including: a non-resonant 15 assembly formed by a motor 30 and a cylinder 6, a resonant assembly 12 formed by a piston 28 reciprocating inside the cylinder 6, an actuating means 29 operatively coupling the piston 28 to the motor 30, and at least one spring means mounted to the resonant assembly 12 and which is elastically and axially deformed (col. 7 ll. 17-20) toward the displacement of the piston 28, characterized in that the spring means presents an elongated tubular body 11 (Figs. 1-2), which is coaxial in relation to the axis of the piston 28 and has and end 13 operatively coupled to the actuating means 29 and an opposite

end 14 operatively coupled to the non-resonant assembly 15, said tubular body 11 having at least part of the extension thereof folded in circumferential sectors 18 that are symmetric (col. 6 ll. 40-44) in relation to the axis of said tubular body 11, each circumferential sector 18 being elastically deformed in the axial direction upon displacement of the piston 28 (col. 7 ll. 17-20); a compressor having circumferential sectors 18 having the same cross section profile (col. 6 ll. 40-44); a compressor wherein each circumferential sector 18 presents a substantially "V" shaped profile (Fig. 2), each circumferential sector 18 being elastically deformed by variation of its respective dihedral angle (col. 6 ll. 40-44, col. 7 ll. 20-23; 30-34); a compressor having circumferential sectors 18 having the same dihedral angle (Figs. 1-2); a compressor having circumferential sectors 18 orthogonal to the longitudinal axis of the tubular body 11 (col. 6 ll. 40-44); a tubular body 11 having a chamber wherein a portion of a piston, most distal end of element 27 as connected to element 28 disposed within element 11, is disposed and comprising a resonant structure, elements 18 of 12 (col. 7 ll. 20-23); a fixation of each end, elements 13 and 14, to the adjacent part defined by the cylinder, element 15 of element 6 adjacent to element 14 as shown in figure 2, and the actuating means, element 28 of element 29 adjacent to element 13, is obtained by one of the processes of welding, gluing and screwing, element 14 (col. 6 ll. 50-54) and element 13 (col. 7 ll. 30-32); a cylinder 6 is closed by a cylinder head 38 defining between a top portion of the piston 28, portion of element 28 defined in upper portion of element 30, and said cylinder head 38 a compression chamber 31, characterized in that the tubular body 11 has an end 14 hermetically affixed to the cylinder 6 (col. 6 ll. 26-28) and the opposite end 13 hermetically affixed to the actuating means 29 (col. 7 ll. 36-38), in order to block the fluid communication between the compression chamber 31 and the exterior 10 of the cylinder 6 through gaps existing between the piston 28 and the cylinder 6; and a hermetic

compressor comprising a hermetic shell, 38, 30, and 6, inside which are mounted resonant 12 and the non-resonant 15 assemblies, comprising another spring means, 35 and 36, in the form of a tubular body (figs. 1-2) having an end 36 affixed to an actuating means 29, via elements 37 and 40, and an other end 35 affixed to a shell, element 38 of the shell as discussed above, via element 39.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomin et al. 6,345,963 in view of Imai et al. 6,485,267. Thomin teaches all the limitations as substantially claimed and discussed above including a tubular body 11 having one end 14 that is defined by a respective tubular 17 extension not presenting a circumferential sector 18 and dimensioned to provide a fitting 20 to the respective part 19 to which it is affixed; one adjacent part affixed to one end 14 of the tubular body 11 is provided with at least one circumferential tooth, area of 15 immediately surrounding element 19 and below elements 20 and 23 as shown

in figure 2, which is coaxial to the axis of the piston 28 for fitting said respective end, 14 via element 17; and one circumferential tooth, area of 15 immediately surrounding element 19 and below elements 20 and 23, being continuous (fig. 2). However Thomin fails to teach the following limitation that is taught by Imai for an arrangement having a tubular body 146 having both ends that are defined by a respective tubular extension not presenting circumferential sectors (fig. 3) and dimensioned to provide a fitting to the respective parts, elements 145 and 149, to which it is affixed; each end of the tubular body 146 is affixed to an adjacent part, elements 145 and 149, provided with at least one circumferential tooth, element 147 of 149 and element 148 of 145, which is coaxial to the axis of a piston 133 for fitting said respective ends and the circumferential tooth, element 147 of 149 and element 148 of 145, for each part being continuous (fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify both ends of a tubular body within a hermetic compressor to have extensions as well as modifying the components of a hermetic shell affixed to the tubular body to also have extensions to create an interlocking arrangement in which tubular body is securely arranged while limiting the degree of movement of the tubular body (Imai – col. ll. 42-49).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are cited on form 892 herewith.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is 571-272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJW

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